Request for City Council Committee Action
From the Department of Public Works

Date: December 16, 2003
To: Honorable Sandra Colvin Roy, Chair Transportation & Public Works Committee
Referral to: Honorable Barb Johnson, Chair Ways & Means Committee

Subject: **Reallocation of Water Revenue Funds**

Recommendation:
Authorize cancellation of the centrifuge replacement at the Dewatering Plant and reallocation of the water revenue funds to complete baffle wall installation in the 45 million gallon finished water reservoir at the Columbia Heights. The centrifuge replacement project was appropriated $500,000 in both 2001 and 2002. We need to reallocate $700,000 of the available water revenue funds to installation of the baffle wall. Funds are available within the existing budget (Water 7400/950/9515/C5201010).

Prepared by: Shahin Rezania, Engineering Services, 661-4975
Approved by:

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Klara A. Fabry, P.E., City Engineer, Director of Public Works
Presenters: Adam Kramer, P.E., Director of Water Services Division

Financial Impact (Check those that apply)

_X No financial impact - or - Action is within current department budget.
(If checked, go directly to Background/Supporting Information)

___ Action requires an appropriation increase to the Capital Budget
___ Action requires an appropriation increase to the Operating Budget
___ Action provides increased revenue for appropriation increase
___ Action requires use of contingency or reserves
___ Other financial impact (Explain):

___Request provided to the Budget Office when provided to the Committee Coordinator

Background/Supporting Information:

Chloramine disinfection employed by the Minneapolis Water Works is a critical element in ensuring the safety and high quality of drinking water. The efficacy of chemical disinfection is primarily dependent on three factors: chemical concentration, contact time (water in contact with chemical), and temperature. As the temperature of the water varies throughout the year, the other two parameters must be varied to maintain a desired “CT” value. This value is the product of disinfectant concentration and effective contact time. The longer the effective contact time, the lower the required disinfectant concentration.

Contact time calculated for reservoirs must take into account how the reservoirs are baffled. An unbaffled reservoir may experience short-circuiting – when a portion of the water flow moves rapidly through the reservoir. This short-circuiting decreases the effective contact time, requiring an increase in disinfectant concentration. By baffling a reservoir, there is an assurance of proper water flow through the reservoir and an increase in the effective contact time. The City has baffled all of its large reservoirs with the exception of the 45 million gallon reservoir at Columbia Heights.

A new membrane plant is being constructed at the Columbia Heights site. Membranes provide a physical barrier to microorganisms and chemical disinfection provides a second barrier. Baffling the reservoir will allow optimization of post-membrane disinfection and will enable lower amounts of chemical addition than if the reservoir remains unbaffled. The plant shutdown for construction of the membrane plant provides a window of opportunity to baffle the reservoir without taking the plant out of service at another time.

Finance has been contacted and concurs.